DETAILED ACTION

Allowable Subject Matter

1. Claims 1, 16, 22, 28, 34, 51, 57, 74, 79 and 84 are allowed.

2. The following is an examiner's statement of reasons for allowance:

Independent claims 1, 34 and 57 are directed to speech decoding device, method and non-transitory computer readable medium. The claimed features including smoothing feature parameters by applying weighted factor that is changing based on the number of frames when decoding voice-less period (i.e., no speech period).

In dependent claims 1, 34, and 57 recite, among other things, following features:

"wherein said smoothing is performed by weighting a smoothed feature parameter representing spectral envelop characteristics of an immediately preceding frame and a feature parameter representing special envelope characteristics of said current frame and by adding the weighted smoothed feature parameter representing spectral envelope characteristics of said immediately preceding frame and the weighted feature parameter representing spectral envelope characteristics of said current frame,

wherein a value of a weighting factor used in said smoothing is changed according to a number of frames which have been received in prior voice-less periods, and

wherein when no feature parameter representing spectral envelope characteristics is received in said current frame, the smoothing is performed using said

feature parameter representing spectral envelope characteristics received before the current frame in place of said feature parameter representing spectral envelope characteristics of said current frame."

Hayata (EP 0 751 490 A2, published on 01/02/1997) discloses a speech decoding apparatus (**fig. 1**). Hayata discloses smoothed speech synthesizing filter coefficients (**Fig. 1, #108 and #109, Abstract, col. 3-4, Summary of the invention**). Hayata does not discloses smoothing over a plurality of preceding frames or the common use of gain in generating a speech output and fails to discloses above underlined limitations.

AAPA (Applicant Admitted Prior Art, Background art section and Fig. 8-10, labeled as "Prior Art") discloses when no feature parameter for spectral envelope characteristics is received in said current frame, the smoothing is performed using said feature parameter for spectral envelope characteristics received before the current frame (**Spec. Background art, page 3, "When the feature parameters are not transmitted, the output speech signal is decoded by repeatedly using the past transmitted feature parameters"; page 6, "when no encoded signal is transmitted, the RMS of the previous frame is used in the equation 1". Equation 1 represents smoothing for coding parameters**). However, AAPA does not disclose a weighting factor used in smoothing is changed according to a number of frames which have been

received in prior voice-less periods. AAPA fails to disclose all above underlined limitations.

Prior art of record, either alone or in combination, does not teach or suggest above underlined limitations in combination with other recited limitations, therefore, fails to anticipate or render obvious the claimed invention.

Dependent claims 16, 22, 28 and 74 depend from claim 1. Dependent claim 51 and 79 depend from claim 34. Claim 84 depends from claim 57. These dependent claims further limit their corresponding independent claims. Therefore, dependent claims 16, 22, 28, 51, 74, 79 and 84 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JIALONG HE whose telephone number is (571) 270-5359. The examiner can normally be reached on Monday-Thursday, 7:00 - 4:30, Alt Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Wozniak can be reached on (571) 272-7632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JIALONG HE/
Primary Examiner, Art Unit 2626